Concepts addressed:
Diversity and Exceptional Needs, and Supporting the Learning Environment: Students as Diverse Learners: Areas of exceptionality in students’ learning, including but not limited to: visual and perceptual difficulties, learning disabilities, attention deficit disorder (ADD), attention-deficit-hyperactivity disorder (ADHD)

Students should refer to:

Specifically, students should review:
I. Classification of Visual Impairment
   a. Visual Acuity
      i. Low Vision – 20/70
      iii. Peripheral Vision – 20 degrees or less – legally blind
      iv. Partially Sighted, between 20/70 & 20/200
   b. Visual Process
      i. Parts of the Eye
      ii. Refractive Errors
         1. Myopia
         2. Hyperopia
         3. Astigmatism
      iii. Errors in Binocular Vision
         1. Amblyopia
         2. Strabismus
      iv. CNS Dysfunctions
         1. Cortical Visual Impairments
         2. Nystagmus
   c. Causes of Visual Impairment
      i. Genetics
      ii. Cataracts - lens
      iii. Glaucoma – anterior chamber
      iv. Detached Retina – loose from back of eye
      v. Retinopathy of Prematurity
II. Diagnostic Signs of Visual Impairments
   a. Medical/Physical
      i. Eyes with irritated coloring, watery, or discharge
      ii. Itchy, scratchy or burning eyes
iii. Eyes that are uncoordinated
iv. Unfocused appearance
v. Excessive Blinking

b. Behavioral
i. Frequent facial expressions with frowning, squinting, head tilting, shutting one eye, and rubbing.
ii. Frequent head aches, dizziness, stomach aches, sensitivity to light
iii. Not alert to surroundings, failure to respond to sound source, inability to recognize familiar faces at a distance.

III. Screening Assessment
a. Snellen Wall Chart
b. Snellen E Test – preschoolers
c. Flash-Card Vision Test

IV. Definition of Orthopedic & Neurological Impairments
a. Orthopedic
i. Nerves, muscles, and bones do not respond in a coordinated fashion
ii. Severe orthopedic impairment that affects educational performance caused by congenital anomaly (e.g. club foot), disease (e.g. bone tuberculosis), or other causes (e.g. CP, amputations, or contractures).

b. Neurological
i. Disorders or defects in the brain, spinal cord or nervous system that affects movement of the body.
ii. Examples - Neural tube defects, spinal cord injuries, and traumatic brain injury.

V. Terminology to know: tendons, ligaments, flexion, extension, midline, abduction, adduction, proximal, distal, superior, inferior, prone, supine, hypertonic, spastic, hypotonic, athetosis, ataxia, range of motion, and contractures.

VI. Classification of Orthopedic and Neurological Impairments
a. Mild – can walk with or without equipment, able to communicate with assistive technology. Mainly difficulties with fine motor skills.
b. Moderate – requires some special equipment for mobility, needs more assistance with communication and self-help skills.
c. Severe – Usually not able to move without the aid of a wheel chair. Self-help and communication skills are challenged by disorder.

VII. Diagnostic Tools
a. X-rays
b. Computerized Asial Tomography (CAT scans)
c. Positron Emission Tomography (PET scans)
d. Single photon emission computer tomography (SPECT)
e. Magnetic resonance imaging (MRIs)
f. Ultrasonography
g. Electroencephalography (EEG)

VIII. Types of Disorders
a. Developmental Coordination Disorder
b. Developmental Dyspraxia
c. Neurological Impairments
   i. Cerebral Palsy
      1. Diplegia
2. Monoplegia
3. Paraplegia
4. Quadriplegia
5. Triplegia
6. Spastic CP
7. Dyskinetic CP
8. Ataxic CP
9. Mixed
   ii. Neural Tube Defects
   iii. Spinal Cord Injuries
   iv. Traumatic Brain Injury
   v. Seizures
d. Musculoskeletal Conditions
   i. Absent Limbs
   ii. Muscular Dystrophies

IX. Defining Specific Learning Disabilities – difficult, some past labels included:
a. Minimal Brain Dysfunction
b. Information Procession Disorder
c. Central Nervous System Disorder
d. Brain Damage Syndrome

X. Rarely evidence of neurological damage, but behavioral signs are present.
a. Present are difficulties in storing, processing, or retrieving information.
b. 30-40% of children who have learning disabilities also have ADD or ADHD.
c. Specific Learning Disability: “a disorder of one or more psychological processes involved in understanding or in using language that may manifest itself in an imperfect ability to listen, think, speak, read, write, spell or do mathematical calculations” (Deiner, 2005, pg. 222, IDEA, 1997)

XI. Diagnosed Evidence
a. Discrepancy between IQ and Academic Performance Achievement – below 2 years of mental age – diagnosed as SLD.
b. Virtually impossible to identify young children – when intervention is most needed.
c. IQ is not a good predictor of phonological decoding ability, a predictor for reading.
d. Boys are more frequently diagnosed than girls. Yet unsure this is an accurate finding, as girls tend to not display the behavioral problems that boys do.

XII. Causes of Specific Learning Disabilities (SLD)
a. Prenatal exposure to alcohol, drugs, and smoking.
b. Low birth weight, premature birth, birth stress, low oxygen
c. Failure to thrive, non-stimulating environments, lead poisoning
d. Chronic ear infections and weak immune system.
e. Inborn conditions – genetic connection to dyslexia
f. Deficient short-term memory, but intact long term memory skills

XIII. Developmental Dyslexia/Reading Disorder
a. 80% of all SLD
b. Boys more frequently diagnosed (60 to 80 %), many feel this is a discrepancy is identification rather than reality
c. Dyslexia involves problems with decoding
d. Phonological hypothesis
e. Auditory & visual sequencing difficulties
f. Short term memory difficulties
g. Cannot be outgrown.

XIV. Dyscalculia/Mathematics Disorder
a. 1 to 6.5 % of children enrolled in school
b. Inability to understand the processes associated with mathematical calculation or reasoning.
c. Inability to understand the visual-spatial aspects of math and the language of math
d. Does not necessarily affect all mathematical concepts.

XV. Dysgraphia/Disorder of Written Expression
a. Many children who have dysgraphia also have dyslexia.
b. Seldom diagnosed until the first or second grade.
c. Able to associate sounds with meaning – difficulty in letter-sound recognition.
d. Signs of Dysgraphia
   i. Illegible writing
   ii. Inconsistencies, mixture of points and curves
   iii. Unfinished words or letters, omitted words
   iv. Inconsistent position on the page with respect to margin and lines
   v. Inconsistent spaces between words and letters.

XVI. Early Identification
a. 0-3 – display clumsy child syndrome
b. 3-6 – pronunciation problems, lack of interest in listening to stories, poor memory for routines, trouble learning numbers, alphabet, or days of the week. May have trouble with tying shoes, buttoning, or getting zippers to work. May have problems with directionality and integrating with peers.
c. Behavioral characteristics
e. Memory problems

XVII. Definition of ADD & ADHD
a. Characteristics have changed very little since 1902 when first identified.
b. Less is known about preschool children vs. school-aged children.
c. Overall incidence has risen in the last two decades.

XVIII. Characteristics – Inattention, impulsivity, hyperactivity, and poor response delay.
a. Movement – squirminess
b. Inability to adjust to change
c. Frequent high-intensity negative moods
d. Irregular sleep patterns (often requiring less sleep)
e. Difficulty in feeding

XIX. Causes
a. Exposure to nicotine, environmental toxins, differences in the brains ability to use glucose, and inheritability.
b. Un-enriched environments, suggested genetic continuum with Tourette syndrome.
c. Level of neurotransmitters – Dopamine, seems to play a part.
d. Differences in Frontal Lobe Functioning, differences in Corpus Callosum coordination.
XX. Types of ADHD
   a. Predominantly Inattentive Type
   b. Predominantly Hyperactivity-Impulsivity Type
   c. Combined Type
   d. Not Otherwise Specified – used for children who have a significant impairment but do not meet the criteria for other subtypes

XXI. Educational Assessment of Attention Disorders
   a. Observation of behaviors over a span of time
   b. Full evaluation by medical doctor or psychiatrist
      i. Formal rating scales completed by teachers, parents, and adults in other settings.
      ii. Observation with peers or friends.
      iii. Medical examinations to rule out sensory problems, motor disabilities, seizures, thyroid disease, allergies, mental retardation, and pervasive developmental disorders.
      iv. Parental interviews
      v. Psycho educational assessment to look for overlap of learning disabilities.

XXII. Attention Disorders and Associated Problems
   b. Academic Underachievement: Learning occurs but acquired skills are not used effectively.
   c. Developmental Coordination: general clumsiness, some of their behaviors may irritate adults and peers and put them at-risk for abuse.
   d. Adaptive Skills: may be slower to develop, rather than waiting for children to perform certain tasks, adults do it for them. Long-term implications are poor.

XXIII. Definition of Mental Retardation (MR)
   a. Professionals are reluctant to classify children as mentally retarded today.
   b. No longer view MR as a permanent condition.
   c. “Refers to substantial limitations in present functioning. It is characterized by significantly sub-average intellectual functioning, exiting concurrently with related limitations in two or more of the following applicable adaptation skill areas: communication, self-care, home living, social skills, community use, self-direction, health and safety, functional academics, leisure, and work. Mental retardation manifests before age 18.” (AAMD, 1992, pg 5; Deiner, 2005, pg. 322).

XXIV. Classification of Mental Retardation
   a. Valid assessment considers cultural diversity, as well as differences in behavior and communication
   b. Existence of limitations of adaptive skills.
   c. Specific adaptive limitations often coexist with strengths in other adaptive skills or other personal capabilities.
   d. With appropriate supports over a sustained period of the imte life functions will generally improve.
   e. Previously the definition of MR was solely based on IQ scores. Now, although an IQ of 70 to 75 is considered below average, there is a consensus that multiple assessments reviewed by multiple team members must be used to verify results.
f. Classifications
   i. IQ of 50-55 to 70-75 – Mild Delays – Educational purposes – Educable Mentally Retarded (EMR)
      1. Reluctant to diagnose
      2. Most labeled Learning Disabled
   ii. IQ of 35-40 to 50-55 – Moderate Delays
   iii. IQ of 20-25 to 35-40 – Severe Delays
   iv. IQ below 20-25 – Profound Delays

XXV. Causes for Mental Retardation
   a. Cognitive delays causes
      i. Low SES & Fewer environmental supports
      ii. Biological causes
   b. Biological/Genetic Causes
      i. Tay Sachs
      ii. Down Syndrome
      iii. Fragile X Syndrome
   c. Environmental Causes
      i. Fetal Alcohol Syndrome
      ii. Fetal Alcohol Effects
      iii. Accidents/Trauma

XXVI. Mental Retardation Intervention
   a. Functional Task Analysis
      i. Breaking task down into component parts
      ii. Sequencing these component parts
      iii. Teaching the parts
      iv. Chart components and type of help/assistance given to analyze effectiveness
   b. Backward Chaining
      i. Most help with the first steps & least help with last step
      ii. First step expected to accomplish is the last step of task
   c. Modeling
      i. Adult model & verbally describe steps
      ii. Verbalize what child is doing and reinforce
   d. Guidelines for Intervention
      i. Teach in as many senses as possible.
      ii. Over-learn, with variation, to establish generalization.
      iii. Teach a concept for a short time over many days rather than a long time over fewer days.
      iv. Determine learning value for certain skills and teach to combine two necessary skills at one time.
      v. Teach skills in setting that are as close as possible to those in which the skill will be used. Generalization is difficult.
      vi. Use many examples for skills – this will help in generalizing.
      vii. Reinforce appropriate behavior.
      viii. Avoid watering down curriculum; rather concentrate on the most important issues/concepts for the students.
      ix. Teach health and safety – self-help skills.
      x. Teach vocabulary to communicate basic wants and needs.
xi. Evaluate the progress of children against their own development rather than comparing to others.

XXVII. Definition of Behavioral Disorders - Behavior or externalizing disorders are characterized by annoyance or disruption of others. The behaviors can include: aggressiveness, destructiveness, tantrums, attention-seeking behaviors – like hitting, biting, yelling, etc.

XXVIII. Stress & Children
   a. Definition of and impact of stress related to the coping strategies and the resources for coping.
   b. Stress can be internal caused by pains (e.g. body pains, juvenile rheumatoid arthritis, etc).
   c. Stress can be unique and based on a single situation (e.g. an injection, a fire, a single incidence of sexual abuse, etc).
   d. Stress can be habitual, chronic or cumulative based on living situation, ongoing sexual abuse, or ongoing drug abuse.
   e. Stress can be overt or covert:
      i. Overt – obvious cause; such as fire, death in the family, etc.
      ii. Covert – kept a family secret, others may not know about it.

XXIX. Diagnosis – Behavioral Disorder
   a. Components – categorical (labeling the problem & its severity) and functional (determining developmental level).
      i. Emotional & behavioral ability to develop a positive sense of self & build/maintain meaningful relationships
      ii. Behavioral problems vs. behavioral disorders
   b. Externalizing problems
      i. Disruptive behavior
         1. Assertiveness vs. aggression
         2. Aggression
            a. Underlying fear or anxiety
            b. Poor self image
      ii. Analyze through specific characteristics: duration, latency, context, frequency, intensity, and time.
         1. Who is the victim?
         2. How does the child act after the behavior?
      iii. Concerned about high intensity aggression in very early years
         1. At risk for loneliness
         2. At risk for lack of peer support
    iv. Victims of Aggression
         1. At risk for depression
         2. At risk for learned helplessness
   v. Aggression Intervention
         1. Help children identify violence and its consequences
         2. Recognize and talk with children about real-world violence
         3. Recognize and respond to children’s reactions to violence
         4. Train children about self protection & basic violence related safety
         5. Help reduce disciplinary violence toward children
   c. Internalizing problems
i. Shyness – extreme
   1. Poor self image
   2. Lack of social skills
   3. Elective mute-ism

ii. Withdrawal
   1. Respite the rights of children who are introverts
   2. Be wary of a pattern of excessive withdrawal & inability to sustain relationships
   3. Interventions:
      a. May have favorite place in room to be safe.
      b. If react when approached by moving away –
         i. Need to be taught social skills
         ii. Reinforce social initiatives
         iii. Consequence is missed opportunities for further social skills
      c. Emphasize warmth, caring, and consistency to overcome insecurities
      d. Maximize observation opportunities of social situation through coaching.

iii. Fearfulness/Anxiety
   1. Phobia – focus on a single object – extreme fear
   2. When it limits the daily experiences and daily routine – it is a concern.
   3. Anxiety – more generalized, includes: worry, becoming easily upset, and anxious
   4. Interventions:
      a. Pay close attention to transitions & unstructured situations
      b. Experiences may be tampered by concerned about doing skill perfectly.
      c. Give clear explanations & reassure them.
      d. Convey your confidence at each step.
      e. May be very oversensitive to criticism.

iv. Eating
   1. When severe – leads to nutritional problems
      a. Infants refusing to eat – may lead to “failure to thrive”
      b. Food allergies may play more of a role in children’s eating behaviors (amount of sugar & caffeine)
   2. Medically based intervention needed

XXX. Classification of Disorders - Disruptive Behavior Disorders
   a. Oppositional Defiant Disorder
      i. Behavior evident before age eight
      ii. Preschool behavior – temperaments with high reactivity & difficulty being soothed.
      iii. Diagnostic Behavior – pg.268.
   b. Conduct Disorder
      i. Essential aspect of conduct disorder is a repetitive and persistent pattern of behavior that violates the basic rights of others.
      ii. Students do not follow rules or age-appropriate societal norms.
iii. Subtypes of conduct disorder
   1. Childhood Onset
   2. Adolescent Onset

iv. Characteristics
   1. Aggression to People and Animals
   2. Destruction of Property
   3. Deceitfulness or theft
   4. Serious violations of rules

v. Co-morbidity
   1. ADHD & Conduct Disorder (60 – 95% of children have both)
   2. Anxiety Disorder & Conduct Disorder (22 – 33% of children have both)

c. Causal factors or Risk factors
   i. Child factors
      1. Temperament
      2. Academic deficiencies/below average intelligence
   ii. Family factors
      1. Genetics
      2. Extreme disciplinary practices
      3. Poverty
   iii. School factors
      1. Lack of safe haven
      2. Harsh disciplinary practices
   iv. Societal factors
      1. Poverty
      2. Substance abuse/Physical abuse

XXXI. Prevention of Behavior
   a. Structure environment for behavioral success
   b. At times of lack of motivation or difficulty focusing – plan a motivational activity.
   c. Maintain rules and discipline, expectations and limits.
   d. At the beginning of the year, take time to set-up the teaching rules, practices, and procedures.
   e. Have a consistent plan for responding to unwanted behaviors within teaching team.
   f. Communicate clearly, using language the child can understand.
   g. Teach children to distinguish between feelings and behavior & provide socially acceptable outlets.
   h. If acting out, give a choice to follow expectation or follow through with consequence.
   i. Learn more about the children in your class.
   j. Maintain eye contact, and gentle, positive touches.
   k. Prevent a situation from getting worse – preventative measures of closing down a center if needed (as the last step).
   l. Keep waiting times to a minimum.
   m. Evaluate the structure and sequence of the class day, especially if a child is having difficulty at the same time each day.
n. Mediate. Children need to be told that their actions cause a particular type of effect.
o. Give children warnings about what they are doing wrong.
p. Make four positive statements for each negative one.
q. Be patient.
r. Simplify, shorten, and structure activities.

Helpful websites include:
Low Vision & Blindness:
American Council of the Blind: http://www.acb.org
American Foundation for the Blind: http://www.afb.org
American Printing House for the Blind: http://www.aph.org
Lighthouse International: http://www.lighthouse.org/Default.htm
National Association for Parents of the Visually Impaired (NAPVI): http://www.spedex.com/napvi

Orthopedic & Neurological Disorders:
American Spinal Injury Association (ASIA): http://www.asia-spinalinjury.org/
Brain Injury Association: http://www.biausa.org
iCan ONLINE: http://www.ican.com
National Paralysis Foundation: http://www.spinalvictory.org/default.htm

Learning Disabilities:
Association for Children and Adults with Learning Disabilities (ACLD): http://www.acldonline.org
The Center for Opportunities and Outcomes for People with Disabilities: http://www.tc.columbia.edu/centers/oopd/
LD Online: http://www.ldonline.org
National Center for Learning Disabilities: http://www.ncld.org

ADD/ADHD
Children and Adults with Attention Deficit Disorder (CHADD): http://www.chadd.org/index.html
Uniquely ADD/ADHD: http://www.uniquely adhd.cocm/add_adhd.html

Mental Retardation
American Association on Mental Retardation: http://www.aamr.org
Division on Mental Retardation – Council for Exceptional Children: http://cec.org
Family Village: http://www.familyvillage.wisc.edu/
The National Down Syndrome Society: http://www.ndss.org

Behavioral Disorders
The Center for Mental Health Services Knowledge Exchange Network – http://www.mentalhealth.org
Karolinska Institute: Mental Disorders – http://www.mic.ki.se/Diseases/f3.html

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National Alliance for the Mentally Ill (NAMI): http://www.nami.org